DOCUMENT RESUME

ED 080 199 PS 006 756

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TITLE	Final Report on the Second St. Paul's Summer Project Conducted by Western Institute for Science and Technology, June - August, 1972.
INSTITUTION	Western Inst. for Science and Technology, Waco, Tex.
PUB DATE	Aug 72
NOTE	16p.
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	Disadvantaged Youth; *Individualized Instruction; *Preschool Children; *Reading Readiness; *Reinforcement; Rewards; Summer Programs; *Tutoring
IDENTIFIERS	Metropolitan Reading Readiness Test; Vanguard Instructional Model

ABSTRACT

A summer project designed to teach reading readiness skills to disadvantaged preschoolers is described. Thirty five five-year-olds attended the program three hours a day, five days a week, for six weeks. The Vanguard Instructional Model used involved contingency management, individualized instructional materials and the extensive use of student tutors as primary instructional agents. The Vanguard program was divided into task areas, during which children worked on prepared learning programs, and recreational or reinforcer areas (RE) which motivated students since students could go to a recreational area after completing a period of work. Diagnostic tests were used to assess the level of achievement that the students had attained upon entering the program. Evaluation of progress consisted of a built-in, pretest and post test system for each stage of the learning process. A child had to achieve 80% mastery of each stage before he could advance to a higher level task. The Metropolitan Reading Readiness Test (MRRT) was also administered to each subject before and after the program. Results indicated that mean scores on alternate forms of the MRRT rose 15.13 percentile points and that student attendance averaged 90% on any given day of the program. Also, it was found that back-up rewards could be deferred for as long as two days; rotating the students through task and RE areas aided efficiency, and co-ordinating learning task and RE activity facilitated learning. (DP)

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FINAL REPORT ON THE SECOND ST. PAUL'S SUMMER PROJECT CONDUCTED BY WESTERN INSTITUTE FOR SCIENCE AND TECHNOLOGY JUNE - AUGUST, 1972

[Jerry Colosimo]

Introduction

In the summer of 1971 St. Paul's Church, in cooperation with Action Planning Council and Western Institute for Science and Technology (WIST), carried out a six weeks summer project for disadvantaged pre-school children. Its success encouraged all organizations involved to make plans to carry out a second summer project during the months of June, July, and August, 1972.

Objectives

The general objective of the project was to provide readiness skill training for the thirty-five children enrolled so that they might enter a formal school environment with the basic skills necessary for success in primary grades. Each organization also had a specific aim in involving itself with the project. The church had found the 1971 program to be an effective way to minister to the needs of its neighbor-residents and wished to continue such ministry. WIST viewed the program as a means by which they could further develop their methods and systems of instruction. Action Planning Council saw the project as an opportunity to deliver effective services to pre-school children in the area adjacent to St. Paul's Church.

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Methods

Vanguard Instructional Model

The methods employed in this project were conceptually similar to those carried out by WIST in other locales. The instruction used has since come

to be known as the Vanguard Instructional Model and involves three components. They are: contingency management, or systematic use of incentive rewards; individualized instructional materials, which permit each student to begin at an appropriate place, and proceed at a pace suitable to his skills and abilities; and the extensive use of student tutors as primary instructional agents.

Diagnostic tests were used to assess the level of achievement that the student had attained upon entering the program. Pre-tests were used to determine the deficiencies and skill achievements in specific subject areas such as reading or math. The instruction itself was given in an individualized manner, employing materials which will be described more fully later in the paper. The post-test was employed to insure that mastery of each stage in the learning process was accomplished before the student proceeded to more difficult work. Before a student could proceed with the next unit in his instructional progression he had to achieve a criterion score of at least 80% on each unit. Hence, mastery learning was strongly emphasized throughout the St. Paul's Summer Program.

Evaluation

Program evaluation took two forms. The first type of evaluation was an on-going one built into the instructional process, and measured the student's mastery of learning objectives through the consistent use of pre- and post-tests. The second form of evaluation consisted of standardized tests. The instrument chosen for this purpose was the Metropolitan Reading Readiness Test*, and the results were then be compared to determine what, if any, cognitive change had been made by exposure to the instructional program. See Appendix F.

*This test is the main reading placement instrument used by Waco public schools at the first grade level.

Task Areas

There were three separate task areas, each devoted and concentrating upon different instructional materials. One task area was devoted to the study of the WIST Reading Program. This program, developed by WIST, teaches work attack skills and features use of cassette tape playback machines and accompanying worksheets. The WIST Program is an entirely individualized program; each student is able to pursue his learning objectives at a pace which is comfortable and productive for him.

The second of the task areas was devoted to study of materials prepared by the Southwest Regional Laboratory (SWRL). These materials are designed for a group instructional process and feature intensive small group activities. Groups were composed of a tutor and four or five students.

The third task room was designated as the exercise room and consisted of activities which would reinforce the learning that had taken place in the first two areas. Exercises such as naming letters, using manipulative materials, spelling out new words, practice in sigh recognition, and practice in sound blending were emphasized.

RE Areas

The students could participate in recreational activities after they had completed a period of work in the task area. It should be emphasized that student groups were not free to chose which of the recreation rooms they were to go to, but were instead lead to a particular room by their student tutors. Each of the students would go to each of the R. E. areas every day, as well as each of the task areas. Once in the R. E. area, there were a limited number of activities that the student could choose to participate in. The principal criteria for selecting these recreation activities was that the students liked to do them and found them fun, since

it was the desire to get to the R. E. areas which provided the motivation for performance in the task area.

It was possible, however, to devise exercises which were both fun for the student and which reinforced the learning which had been taking place in the task area. For example, if the letter A had been studied in the task areas that day, activities in the R. E. area might feature making A's out of colored paper, making A's with scrap materials, painting large A's on butcher paper, and the like. It might also be possible to buy a letter A made out of cookie dough or to acquire one of the large A's that had been completed in the art area.

Contingency Management

The contingency management system used was a token economy in which students could earn points for performing desired tasks or for behaving in desired ways. These points could, in turn, be exchanged for activities that the student liked. Points were also redeemable for candy, for treats, or could be saved up for special events which would occur at periodic intervals. The method for handling the points earned and spent was to make punches on a data processing card with a regular ticket punch. At the beginning of each day, a student would be given a new card on which was written his name and the balance of points still remaining in his favor. As he performed a learning task or exhibited desirable behavior, he would earn more punches and these would be registered in the "earned" column on one side of the card. When he went to the R. E. area, he would give up a certain number of points to participate in the activities available there, and these points would, in turn, be registered on the "spent" side of his card.

This contingency management system provided immediate reinforcement for students and thus motivated them, yet the teacher was spared the

necessity of carrying tangible rewards (candy) during the class period. An advantage of the punch card system over the use of actual metal tokens is that the possibility of stealing token or counterfeiting them is eliminated. Further, by issuing punches that make differently shaped holes, it was possible to keep an accurate tally of which tutors were interacting with which students. The aim here is not to prevent tutors from developing favorites, but to discover which students are not being reinforced, either because they are very quiet or because they misbehave frequently. A conscious effort can then be made to look for good performance and/or behavior on the part of these students and reinforce it heavily. By this means shy or recalcitrant students can be brought to respond positively to the program. WIST found this form of contingency management to be extremely effective, as it has been in its other programs.

Articulation

The articulation of this program may be followed by referring to Appendices A, B, C, D, and E which are schedules and flowcharts of the instructional and RE processes at the second St. Paul's Summer Program.

Planning

In April of 1972 representatives of the three organizations involved began to meet and plan for the second year's operation. The principal objective of these planning sessions was to carefully specify the roles that each organization, and each representative of that organization would play in carrying out the project.

St. Paul's Church agreed that its pastor would act as the director of the summer program and would be charged with canvasing for, and engaging, about twenty young people in junior high school or high school to serve as tutors. St. Paul's Church would furnish the facilities for the program

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consisting of a number of rooms in the basement of the chapel. St. Paul's was to organize volunteer drivers for a car pool to pick up and take home students, and to provide facilities for serving a noon meal. St. Paul's also committed $3,500 for the operation of the summer program.

Action Planning Council agreed to recruit approximately 35 to 40 pre-school students to participate in the program. They agreed to arrange for free lunches through the Department of Agriculture for prospective students and tutors. It was agreed that these lunches would be delivered to the site of the summer program.

A WIST consultant was designated educational program director. The director's role involved several functions. First, he would organize and plan the training program for tutors. Next, he would implement this training program, teaching the tutors the skills needed to be effective in working with the pre-school children. He would be responsible for designing and carrying out the operation of the actual educational program. Further, he was to be onsite as the representative of WIST in order to trouble shoot any difficulties which might arise.

Pre-Implementation Activities

During the month of May, 1972, each of the organizations involved in the project prepared the first phase of the operations that had been agreed upon during the planning stage. St. Paul's Church designated seven rooms in their church building to be used for the project, and made sure they were in readiness for the program. Three of the rooms were designated as task areas, and four rooms were set aside as recreation or R. E. areas. In addition, an area was set aside where students would eat their lunch and have their snacks. A car pool was organized among volunteers from the church parish. In many cases these ladies were mothers of tutors in the program.

Action Planning Council recruited children to participate in the program. The characteristics of the student population were as follows: Almost all of the children were from welfare families, none had any kindergarten experience, 90% of them were black, their average age was five, and all of them came from low income families. Action Planning Council also arranged for the free lunch program through the Department of Agriculture.

WIST carried out its planning responsibilities by organizing both the tutor training and regular instructional programs.

Implementation

Implementation of St. Paul's Summer Program #2 began on June 5, 1972. The first phase of the program focused on training the 24 tutors who had been recruited by the church. Each tutor spent approximately 35 hours in training. Tutors arrived at the church at 8:00 A.M. and remained there until noon for ten days in sucession. Training sessions involved a variety of methods including films, slides, role playing or walk-through sessions, reading of written materials, listening to lectures, and carrying out homework assignments. Homework consisted of applying the techniques they had learned in training to situations they found in their own homes. Training provided the tutors with an effective working model of the principles of contingency management, as well as a thorough familiarity with the individualized instructional materials which would be employed with the pre-school children.

Beginning on June 19, 1972, pre-school students were introduced to the program. Students entered the program in three stages. One third were introduced on Monday, another third was added on Tuesday, and by Wednesday the full complement of 35 students was participating in the program. The program began in this way so that tutors could begin their work without

the confusion which would be created by all of the students having to learn the routine at one time.

Findings and Analyses

Findings

1. Mean scores on alternate forms of the Metropolitan Reading Readiness Test rose 15.3 percentile points. See Appendix F.

2. Student attendance averaged ninety (90) percent on any given day of program operation. Tutor attendance averaged ninety-five percent.

3. Five year old students were able to work and learn productively for up to three hours per day.

4. The contingency management system was refined so that back-up reinforcers could be deferred for a period of up to two days.

5. Groups of students were rotated through both the task and RE areas.

6. Tutors went through thirty-five hours of training and emerged as the best prepared tutors in WIST's experience.

7. Tutors, as the gains in test scores demonstrate, worked effectively as primary instructional personnel.

8. St. Paul's Church has decided to budget the cost of future summer programs rather than rely on the collection of special funds.

9. Ninety volunteers participated in the eight week program.

10. A tutor handbook was developed as a first step in the production of a program package which will facilitate future replication.

11. The cost of the program was approximately half that of a Head Start program for the same number of children, yet its measurable effect on cognitive skills was twice as great.

12. A college student was trained as contingency management supervisor,

and made several important contributions. She functioned in a role that is akin to that of an experimental psychologist.

13. A group of four tutors developed and tested instructional material for use in the program.

Analyses

The program's effect on student behavior was significant, as the children's test scores, attendance records, and impressive goal-directed attention span indicate. In view of the attendance records and classroom behavior of other children from similar socio-economic backgrounds, there is clear evidence that the St. Paul's program was very rewarding to the children involved.

Important refinements were made in the Vanguard system of delivering instruction to children of this age: First, it was found that back-up rewards could be delayed far longer (up to two days) than had previously been thought possible. Second, rotating groups of children through the task and RE areas prevented any one area from being flooded with more students than it could handle effectively. Third, by coordinating the activities experienced in the task and RE areas, the student's learning was given a sharp focus, and the acquisition of desired skills was facilitated.

The volunteer effort by tutors and adults from the St. Paul's parish was positive and rewarding. The volunteers repeatedly expressed satisfaction with the program and the desire that it continue in the future.

Conclusions and Recommendations

The second St. Paul's Summer Project demonstrated that the Vanguard Instructional Model, as developed by WIST, is an effective means of imparting both cognitive and social readiness skills to disadvantaged pre-school children. It is recommended that the Vanguard model be utilized in other programs involving the similar student populations.

Appendix A

ST. PAUL'S SUMMER PROGRAM

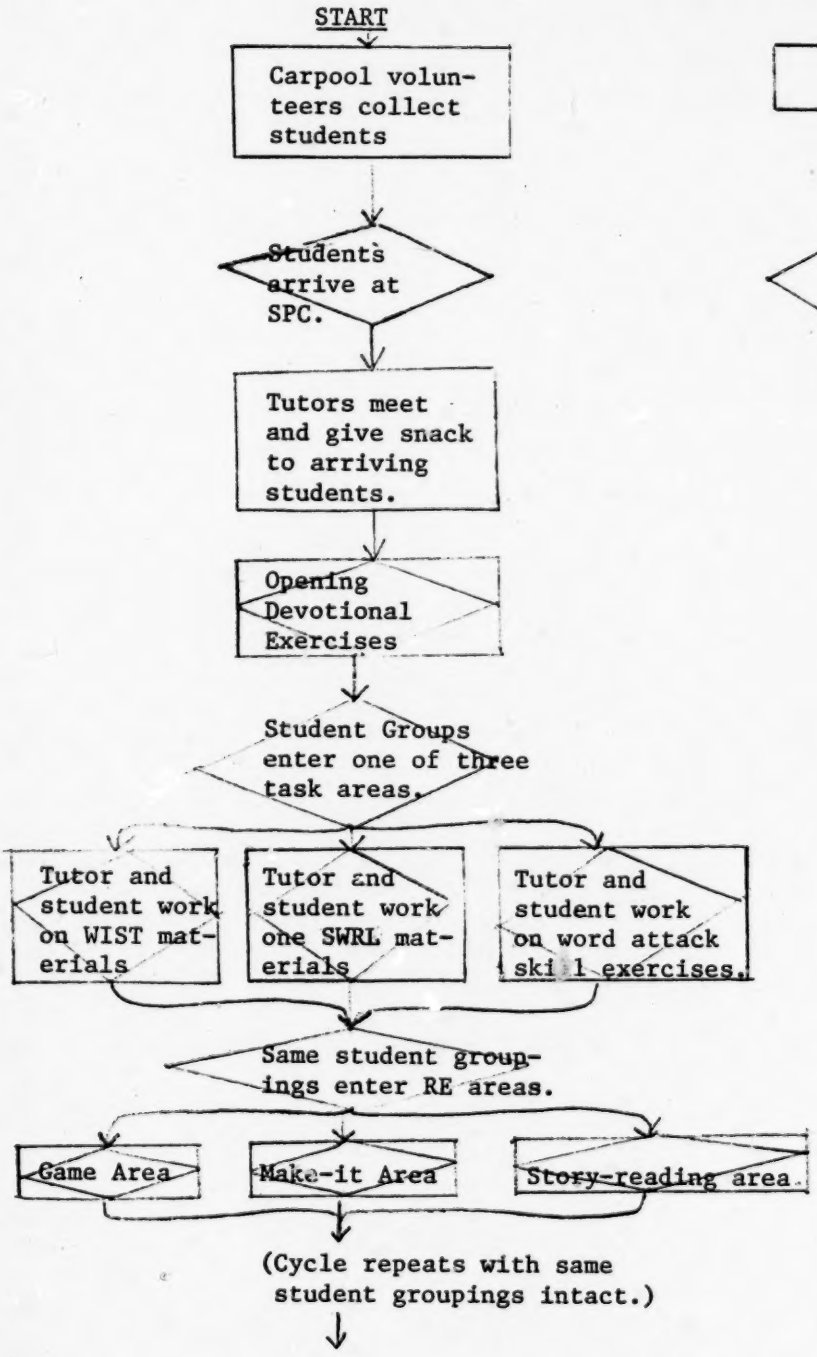
DAILY SCHEDULE

8:30 - 8:45	Students arrive, have snack
8:45 - 8:50	Move to Gym
8:50 - 9:00	Opening Exercise
9:00 - 9:05	Move to Task Area
9:05 - 9:35	First Task Period
9:35 - 9:50	First R. E.
9:50 - 10:00	Getting to Second Task
10:00 - 10:30	Second Task Period
10:30 - 10:55	Second R. E. (Playground)
10:55 - 11:00	Getting to Third Task Area
11:00 - 11:30	Third Task Period
11:35 - 11:50	Lunch in Gym
11:50 - 11:55	Clean Up Area
11:55	Pick-up by Car Pool Volunteers.

Appendix B

ST. PAUL'S SUMMER PROJECT #2

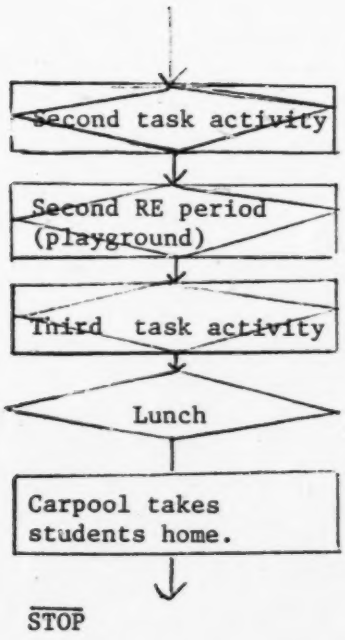
Daily Instructional Process


START
Carpool volunteers collect students
Students arrive at SPC.
Tutors meet and give snack to arriving students.
Opening Devotional Exercises
Student Groups enter one of three task areas.
Tutor and student work on WIST materials
Tutor and student work one SWRL materials
Tutor and student work on word attack skill exercises.
Same student groupings enter RE areas.
Game Area
Make-it Area
Story-reading area
(Cycle repeats with same student groupings intact.)

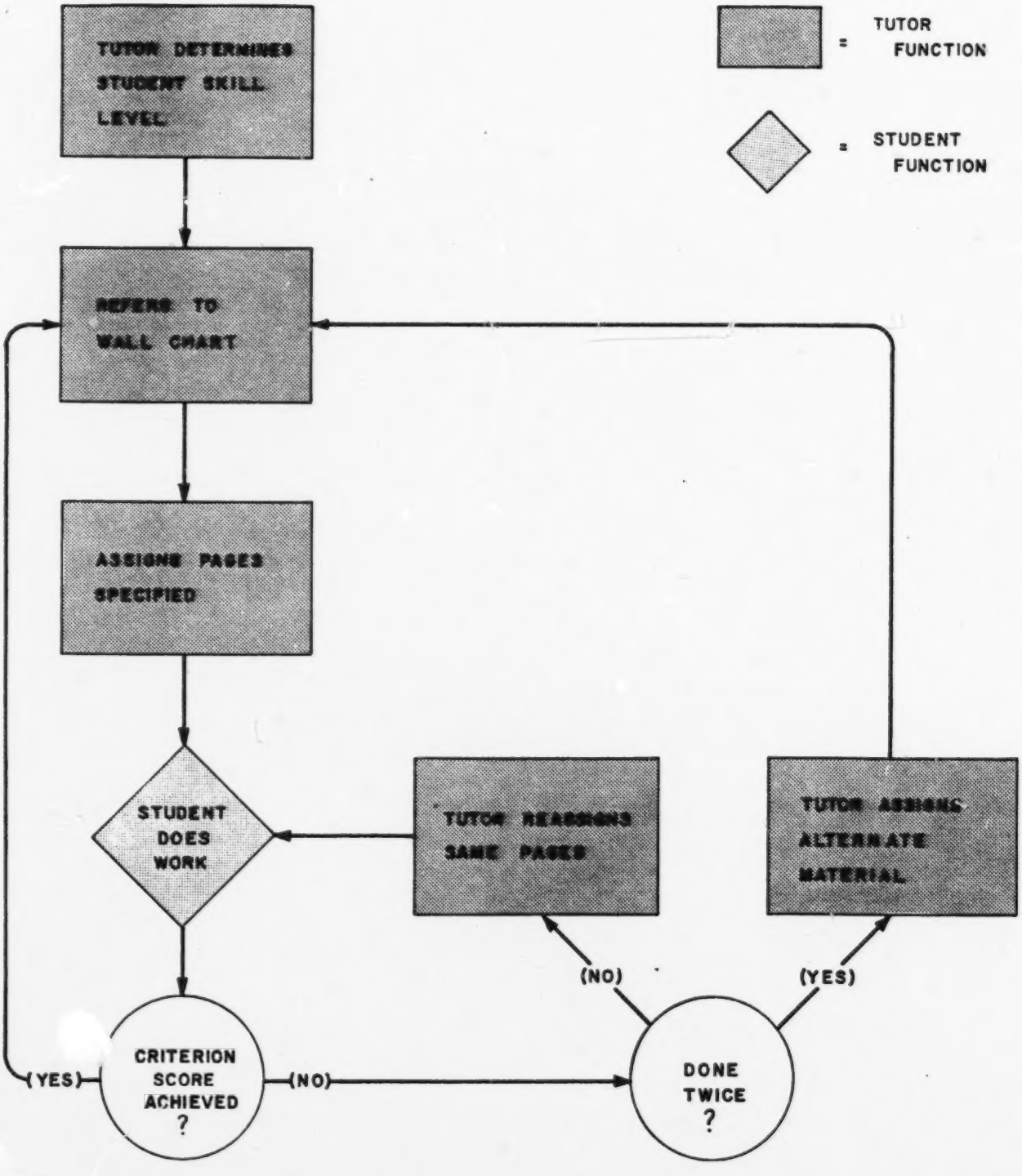
= Staff Function

= Student Function

(Flow charts for WIST and SWRL task prescriptions attached.)

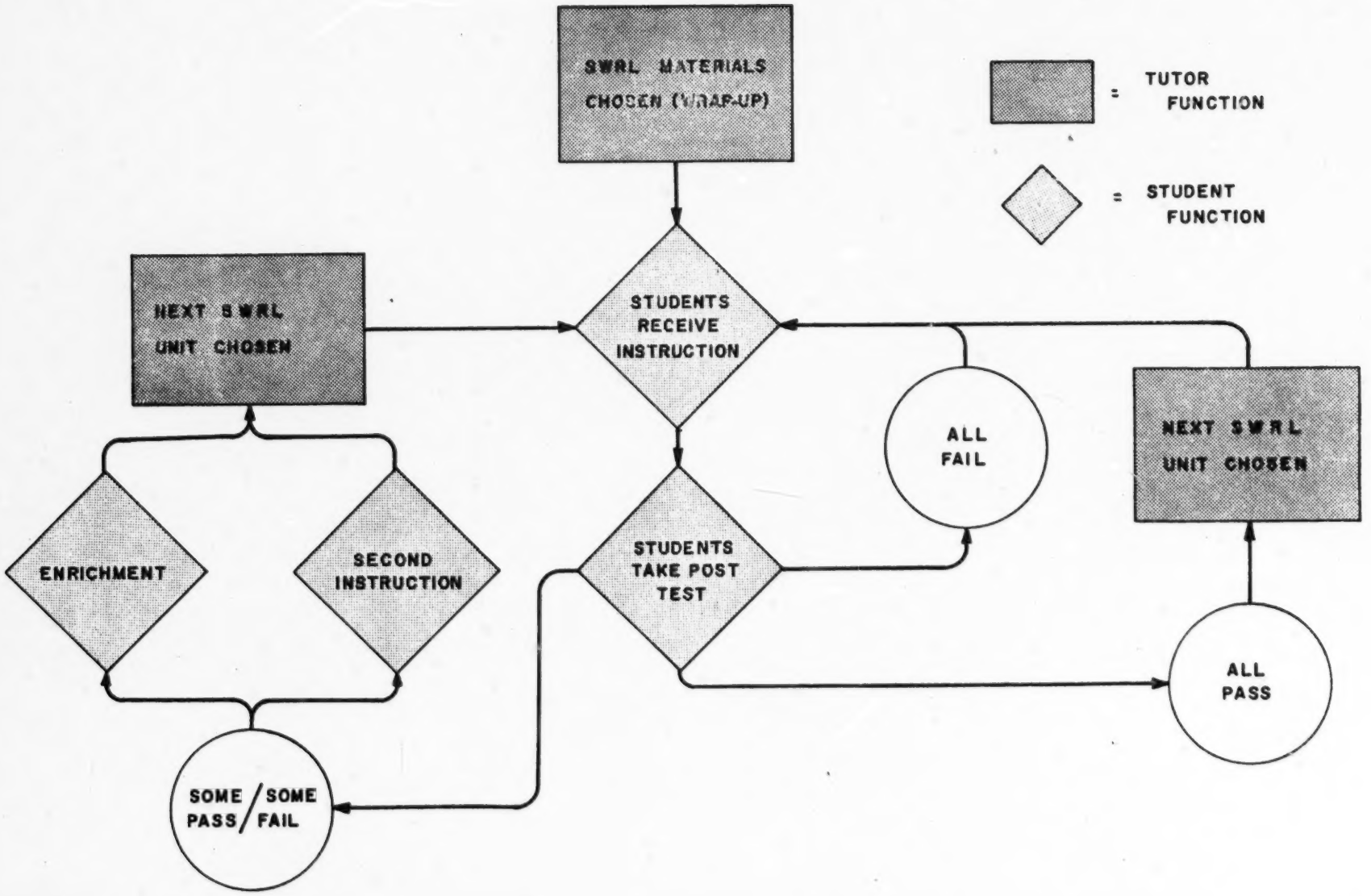

Second task activity
Second RE period (playground)
Third task activity
Lunch
Carpool takes students home.
STOP

PRESCRIPTION of WIST READING PROGRAM



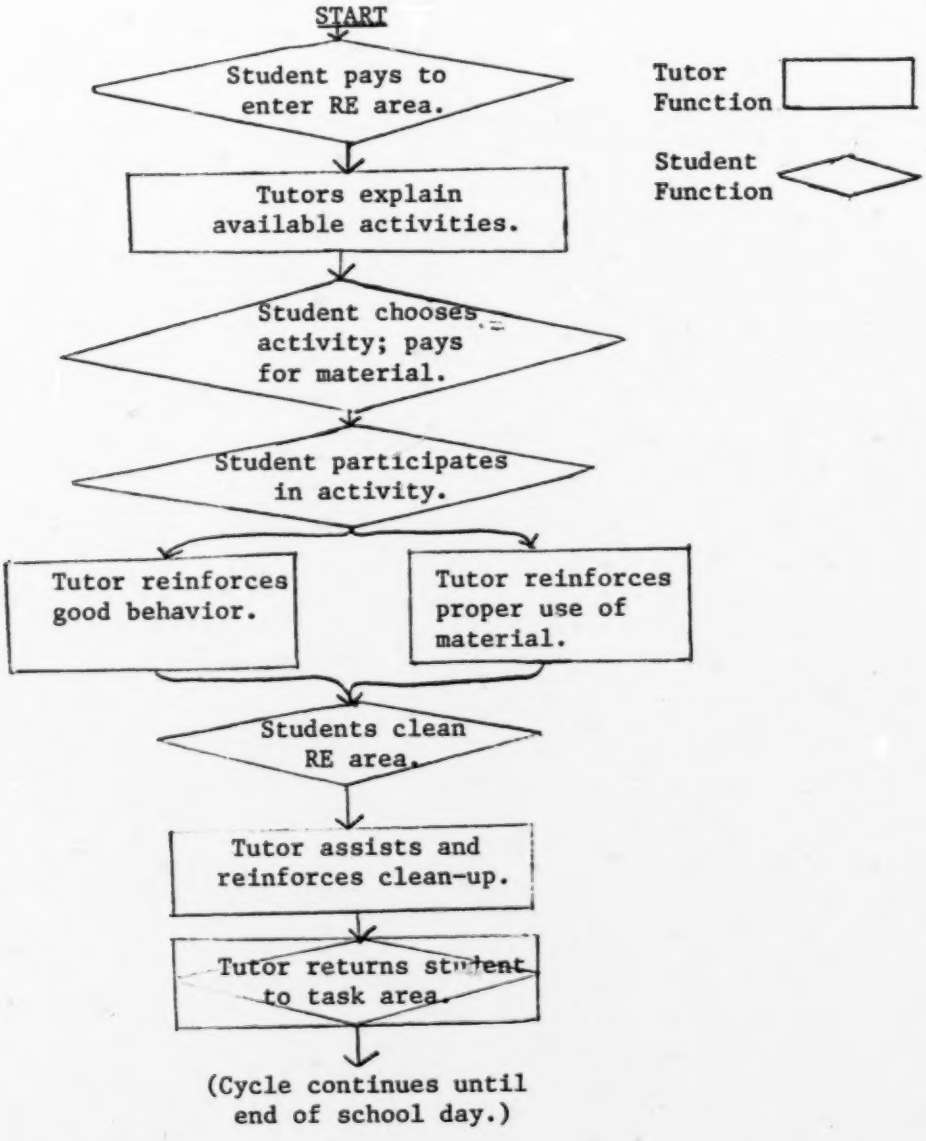
FLOW CHART NO. 3

PRESCRIPTION of SWRL READING PROGRAM



Appendix E

St. Paul's Summer Program
RE Area Activity Process


START
Student pays to enter RE area.
Tutors explain available activities.
Student chooses activity; pays for material.
Student participates in activity.
Tutor reinforces good behavior.
Tutor reinforces proper use of material.
Students clean RE area.
Tutor assists and reinforces clean-up.
Tutor returns student to task area.
(Cycle continues until end of school day.)
STOP
Tutor Function
Student Function

Appendix F

REPORT OF PRE TEST AND POST TEST SCORES OF THE METROPOLITAN READINESS ST. PAUL'S SUMMER PROGRAM 1972

	Pre Test Score Percentile	Post Test Score Precentile	Precentile[1] Gain
1.	36	61	25
2.	36	61	25
3.	11	63	52
4.	53	65	12
5.	11	20	9
6.	8	29	21
7.	5	11	6
8.	20	38	18
9.	8	22	14
10.	13	29	16
11.	26	46	20
12.	2	5	3**
13.	6	3	-3**
14.	20	53	33
15.	73	86	13
16.	65	83	18
17.	19	22	3
18.	12	10	-2**
19.	36	77	41
20.	42	53	11
21.	*	5	
22.	6	13	7
23.	5	17	12
24.	40	55	15
25.	8	13	5
26.	3	8	5
27.	61	73	12
28.	29	61	32
29.	*	51	
30.	*	59	
31.	*	33	
32.	*	46	
33.	*	44	
34.	33	46	13
35.	53	61	8

[1]Students were in the program for approximately 3 hours per day, five days per week for six weeks.

*No test scores available and none of these scores were included in group averages.

**Random behavior exhibited--resulting score indicates test too demanding for child.

Group Median 19.5 on pre test, 33.5 on post test, gain of 14.0
Group Mean 25.5 on pre test, 40.8 on post test, gain of 15.3